

ABSTRACT

[000173] DNA transcription regulating proteins capable of binding to a DNA regulatory sequence that regulates expression of one or more environmental stress tolerance genes in a plant such as to cold and drought are provided. Cold-regulated transcription factors may include ZAT12 and RAV1. The present invention relates to the DNA regulatory sequence to enhance the stress tolerance of recombinant plants into which these genes are introduced. Methods for using the DNA and transcription regulating proteins to regulate expression of one or more native or non-native environmental stress tolerance genes in a plant are provided. Use of a promoter capable of effecting mRNA transcription in the selected plant cell to be transformed may also included. Other embodiments include the use of vectors.